
माइक्रो ड्रिल — विशिष्टि
(दूसरा पुनरीक्षण)

Micro-Drills — Specification
(*Second Revision*)

ICS 26.140.30

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भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

मानक भवन, 9 बहादुरशाह ज़फर मार्ग, नई दिल्ली-110002
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI-110002

www.bis.org.in www.standardsbis.in

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Cutting Tools Sectional Committee had been approved by the Production and General Engineering Division Council.

This standard was first published in 1969 and revised in 1983. This revision has been taken up to incorporate the latest developments in the field.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard

MICRO-DRILLS — SPECIFICATION

(Second Revision)

1 SCOPE

This standard specifies the dimensions, tolerances and requirements for micro-drills.

2 REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
919 (Part 2) : 2014	Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes: Part 2 Tables of standard tolerance classes and limit deviations for holes and shafts
5099 : 2003	Technical supply conditions for twist drills
7778 (Part 1) : 2003	Small tools sampling inspection procedures: Part 1 Twist drills, counter sinks and counterbores
10719 : 1983	Method of indicating surface texture on technical drawings

3 DIMENSIONS

The dimensions shall be as given in Table 1.

4 DESIGNATION

A micro drill having diameter $d = 0.25$ mm for right hand cutting and of 'tool type N', made from high speed

steel conforming to this standard, shall be designated as:

Micro-Drill 0.25 IS 5363

5 GENERAL REQUIREMENTS

5.1 Unless otherwise specified micro drill shall be supplied with right hand helix and right hand cutting.

5.2 Tool type unless, otherwise specified shall be type 'N' according to IS 5099.

5.3 For requirements not covered in this standard, micro drill shall conform to IS 5099.

5.4 The form of transition from shank to cutting portion of the micro drill shall be hyperbolic, as far as possible.

6 SAMPLING

The sampling and criteria for acceptance shall be according to IS 7778 (Part 1).

7 MARKING

7.1 The micro-drills shall be marked as per IS 5099.

7.2 BIS Certification Marking

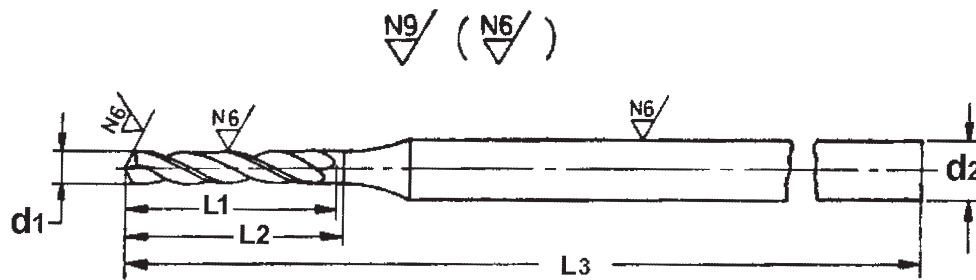
The micro-drill may also be marked with the Standard Mark.

7.2.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Table 1 Dimensions for Micro-Drills

(Clause 3)

All dimensions in millimetres.

**HELICAL FLUTED DRILL**

L3 = 25 mm UPTO 1.45 mm DIAMETER.

L3 = 30 mm OVER 1.45 mm DIAMETER.

$d_1^{(1)}$ 0 - 0.004	Diameter Range		$d_2^{(2)}$ h8	L_1	L_2 Min
	Over	Up to and Including			
0.05 0.06	0.047 5	0.06	1	0.4	0.6
0.07 0.08 0.09	0.06	0.09	1	0.5	0.7
0.10 0.11 0.12	0.09	0.12	1	0.5	0.7
0.13 0.14 0.15	0.12	0.15	1	0.8	1.0
0.16 0.17 0.18 0.19	0.15	0.19	1.0	1.1	1.4
0.20 0.21 0.22 0.23 0.24	0.19	0.24	1	1.5	1.8
0.25 0.26 0.27 0.28 0.29 0.30	0.24	0.3	1	1.9	2.2
0.31 0.32 0.33 0.34 0.35 0.36 0.37 0.38	0.30	0.38	1	2.4	2.8
0.39 0.40 0.41 0.42 0.43 0.44 0.45 0.46 0.47 0.48	0.38	0.48	1	3.0	3.6

Table 1 Dimensions for Micro-Drills — *contd*

(Clause 3)

$d_1^{1)}$ 0 - 0.004	Diameter Range		$d_2^{2)}$ h8	L_1	L_2 Min
	Over	Up to and Including			
0.49 0.50 0.51 0.52 0.53	0.48	0.53	1	3.4	4.0
0.54 0.55	0.53	0.60	1	3.9	4.5
0.56 0.57 0.58 0.59 0.60	0.53	0.60	1	3.9	4.5
0.61 0.62 0.63 0.64 0.65 0.66 0.67	0.60	0.67	1	4.2	5.0
0.68 0.69 0.70 0.71 0.72 0.73 0.74 0.75	0.67	0.75	1	4.8	5.6
0.76 0.77 0.78 0.79	0.75	0.79	1	5.3	6.3
0.80 0.81 0.82 0.83 0.84 0.85	0.79	0.85	1.5	5.3	6.3
0.86 0.87 0.88 0.89 0.90 0.91 0.92 0.93 0.94 0.95	0.85	0.95	1.5	6.0	7.1
0.96 0.97 0.98 0.99 1.00 1.05	0.95	1.06	1.5	6.8	8.0
1.10 1.15	1.06	1.18	1.5	7.6	9.0
1.2 1.25 1.30	1.18	1.32	1.5	8.5	10.0
1.35 1.40 1.45	1.32	1.45	1.5	9.5	11.2

¹⁾ Preferred nominal diameters.²⁾ See IS 919 (Part 2).

NOTE — See IS 10719 for surface texture symbol indications.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002

Telephones : 2323 0131, 2323 3375, 2323 9402

Website: www.bis.org.in

Regional Offices:

Telephones

Central	: Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	{ 2323 7617 2323 3841
Eastern	: 1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700054	{ 2337 8499, 2337 8561 2337 8626, 2337 9120
Northern	: Plot No. 4-A, Sector 27-B, Madhya Marg, CHANDIGARH 160019	{ 26 50206 265 0290
Southern	: C.I.T. Campus, IV Cross Road, CHENNAI 600113	{ 2254 1216, 2254 1442 2254 2519, 2254 2315
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